LONG ISLAND UNIVERSITY
Science Engineering Research Group
C.W. Post Center
Greenvale, New York 11548

# IN SITU SPECTRORADIOMETRIC CALIBRATION OF EREP IMAGERY AND OCEANOGRAPHY OF BLOCK ISLAND SOUND



Monthly Progress Report, September 1973

EREP Investigation: 069/070
Contract No.: NAS9-13308
Principal Investigator: Dr. Edward Yost
Date: 20 September 1973

Technical Monitor:
T.T. White
Mail Code TF6
L.B.J. Space Center
NASA Earth Observations Div.
Houston, Texas 77058

## 1. Introduction

This document constitutes the monthly progress report on "In Situ Spectroradiometric Calibration of EREP Imagery and Oceanography of Block Island Sound, Skylab EREP Investigation 069/070". This research is being conducted under National Aeronautics and Space Administration Contract No. NAS9-13308. The objectives of this investigation are:

(a) To relate radiometric spectra measurements to space-acquired imagery over test sites in Arizona under EREP task nos. 701224 and 701269.

(b) To determine the utility of sensor systems for oceanographic studies and the correlation of ground-truth acquired in Block Island Sound, New York, with the Skylab data collected under EREP task nos. 646609 and 646638.

## 2. Work Status

During the reporting period, a "quick-look" analysis of the Skylab data and aircraft imagery received so far was performed. The exact requirements for S192 data over Arizona were determined and a request was sent to PIMO, Houston.

Skylab data over Block Island Sound, New York, under task nos. 646609 and 646638 was collected on 12 September 1973. The ground truth experiment was conducted under the direction of Dr. Rudolph Hollman of the New York Ocean Science Laboratory, Montauk, New York.

Past experience with ERTS-1 imagery and ground truth data from the area around Montauk Point, Long Island, indicates that a very distinct and fairly persistent plume of water may be associated with Shagwong Reef, some three miles northwest of Montauk Point. The Skylab overpass on 12 September 1973 made it possible to check this hypothesis in more detail. A previous experiment that was performed during a past scheduled Skylab overpass on 9 August 1973 produced promising results.

Two research vessels were employed for the experiment, the R/V KYMA and the R/V BLUE SKIES, each occupying one station on an hourly basis starting at slack water prior to the ebb tidal current at 1100 hours and terminating after 1600 hours. The BLUE SKIES was also used to run the samples for particle size analysis into the laboratory for immediate processing. All other samples were processed on board the R/V KYMA.

Water samples were collected from the water column for salinity, nutrients, oxygen, pigments, organics, phytoplankton, and particle size analysis. Temperature, and light attenuation were measured in situ.

The station occupied by the R/V KYMA was in deep water upstream of the reef; the second station occupied by the R/V BLUE SKIES was on Shagwong Reef. A current meter was installed on this site to monitor the flow over the reef.

The experiment took place under almost ideal weather conditions, clear skies, and no particular problems were encountered.

The data acquired both on the August and September cruises will be reduced and analyzed in the next reporting period.